## **EAST Search History**

## **EAST Search History (Prior Art)**

Ref#	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L7	2	(electron near1 (emiss\$3 emit\$3)) with (n\$dop\$3 with diamond)	EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:11
L11	14	("5541423").URPN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/03/02 15:37
L12	9316	(semiconductor with (emit \$4 emission)) and cathode and dop\$4 and "n" and "p"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:38
L13	4447	L12 and @ad< "20040915"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:39
L14	1130	L13 and ("Field emission" "field emitter" "FED" "electron emitter" "electron emission")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:42
L15	1	("3581151").PN.	US-PGPUB; USPAT	OR	OFF	2011/03/02 15:51
L16	30	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") with ("PN junction" with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:53
L17	787	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") and ("PN junction" with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:56

L18	757	L17 not l16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:57
L19	454	L18 and @ad< "20040915"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 15:59
L20	5081	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") and (junction with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 16:14
L21	8	("5146296"   "5596186"   "6541836"   "6762473"). PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:16
L22	21462	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") and ("PN junction" with light or photon)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:18
L23	1314	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") with ("PN junction" with light or photon)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:18
L24	1177	L23 not 20	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:18
L25	1177	L24 not I18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:19

L26	723	L25 and @ad< "20040915"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 17:19
L27	14	("4331505"   "4728851"   "5138220"   "5262649"   "5543684"   "5693947"   "5780858"   "5780960"   "5821680"   "6211608"   "6362484"   "6384400"). PN. OR ("6570165").URPN.	US-PGPUB; USPAT; USOCR	MOR	OFF	2011/03/02 17:51
L28	61	("4627008"   "4874981"   "5042058"   "5335258"   "5444242"   "5563929"   "5602894"   "5717204"   "5742658"   "6259765"). PN. OR ("6333968").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/02 18:04
L29	22460	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") with ("illumination source" "light source" light \$emitting light\$emission)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 18:28
L30	1046	("Field emission" "field emitter" "FED" "electron emitter" "electron emission" "cold cathode") with ("illumination source" "light source" light \$emitting light\$emission) same (junction alliance assemblage joining union reunion combination) same (light photon)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 18:31
L31	297	L30 and @ad< "20040915"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 18:31
L32	2597	((313/495-497,311)or (445/24-25)).ccls. and ("illumination source" "light source" light \$emitting light\$emission)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 18:43

L33	201	(((313/495-497,311)or (445/24-25)).ccls. and ("illumination source" "light source" light \$emitting light\$emission) with (junction alliance assemblage joining union reunion combination) same (light photon)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 18:44
S608	7536	((313/495-497)or(445/24- 25)).ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 16:59
S609	4134	\$608 and (junct\$3 attachment assemblage bond combinat\$3 combine)	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 17:01
S610	4248	S608 and (junct\$3 attachment assemblage bond combinat\$3 combine joint)	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 17:01
S611	2506	S610 and @ad< "20040915"	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 17:02
S612	2213	(313/311).ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 17:59
S613	573	S612 and @ad< "20040915"	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 17:59
S614	7	("5463271"   "5541423"   "5541423"   "5888113"   "6204597"   "6267637"   "6379210"   "6445114"   "6445114").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 18:01
S615	38	("5463271").URPN.	USPAT	OR	OFF	2011/03/01 18:02
S616	17	("5463271"   "5703435"   "5821680"   "5852303"   "5908699"   "6127773"   "6274881"   "6376123"   "6472814"   "6554673"). PN. OR ("6861790").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 20:56
S617	76	((natsuo near tatsumi)or (yoshiki near nishibayashi) or(takhiro near imai)).in.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:02
S618	13	("20030089912"   "20040056580"   "20040238809"   "20050042743"   "20050062389"   "20050133735"   "20050174030"   "20050200261"   "5341063"   "5602439"   "5844252"   "6538368"   "7307377").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:04

S619	12	/"2E011E1"   "E100010"			OFF	20011/02/01
5019	12	("3581151"   "5199918"   "5410166"   "5656883"   "5679895"   "5844252"   "6132278"   "6465941"   "6762543"   "6876136"). PN. OR ("7307377").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:07
S620	35	("2960659"   "3105166"   "3150282"   "3184659"   "3214629"   "3264533"). PN. OR ("3581151").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:14
S621	12	("3581151"   "5199918"   "5410166"   "5656883"   "5679895"   "5844252"   "6132278"   "6465941"   "6762543"   "6876136"   "7307377").PN. OR ("7710013").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:27
S622	1	("20040056580").PN.	US-PGPUB; USPAT	OR	OFF	2011/03/01 21:32
S623	2213	(313/311).cds.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 21:38
S624	7536	((313/495-497)or(445/24- 25)).ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 21:41
S625	68	S624 and (diamond with (emit\$4 emiss\$3)) and (dop\$3 with (n\$typ "n")) and (dop\$3 with (p\$type "p"))	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 21:44
S626	12	("3581151"   "5199918"   "5410166"   "5656883"   "5679895"   "5844252"   "6132278"   "6465941"   "6762543"   "6876136"   "7307377").PN. OR ("7710013").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 21:45
S627	23	("3581151").URPN.	USPAT	OR	OFF	2011/03/01 21:46
S628	12	("3466485"   "3497929"   "5150019"   "5557160"). PN. OR ("5717278").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 22:02
S629	134	"313"/\$.ccls. and (diamond with (emit\$4 emiss\$3)) and (dop\$3 with (n\$typ "n")) and (dop\$3 with (p\$type "p"))	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 22:07
S630	77	S629 not S625	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 22:07

S631	7	("20040056580"   "20040095051"   "5289086"   "5552613"   "5844252"   "6184611"   "6267637").PN. OR ("7737614").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 22:12
S632	635	(diamond with (emit\$4 emiss\$3)) and (dop\$3 with (n\$typ "n")) and (dop\$3 with (p\$type "p"))	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 22:16
S633	339	S632 and @ad< "20040915"	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 22:17
S634	290	S633 not S630	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/01 22:18
S635	10	("5670788").URPN.	USPAT	OR	OFF	2011/03/01 22:29
S636	21	("5063421"   "5117267"   "5124779"   "5132749"   "5144380"   "5243199"   "5285078").PN. OR ("5541423").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/01 22:30
S637	1	("20090212703").PN.	US-PGPUB; USPAT	OR	OFF	2011/03/01 22:49
S638	1	("20080284313").PN.	US-PGPUB; USPAT	OR	OFF	2011/03/01 22:58
S639	6	(("20060244352") or ("3581151") or ("20020031931") or ("6958571") or ("20050042743") or ("20040056580")).PN.	US-PGPUB; USPAT	OR	OFF	2011/03/02 11:13
S640	3	("6958571").URPN.	USPAT	OR	OFF	2011/03/02 11:25
S641	11521	(sumitomo near electric near industries).as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:27
S642	5	S641 and (FED ("field emitter device" "electron emission")) with (PN schottky) same (junction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:28
S643	2	"11154455"	EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:35

S644	19	("3581151"   "5199918"   "5410166"   "5656883"   "5679895"   "5844252"   "6132278"   "6465941"   "6762543"   "6876136"). PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:37
S645	197	(FED ("field emitter device" "electron emission")) with (PN schottky) same (junction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:42
S646	18211	(FED ("field emitter device" "electron emission") diode) with (PN schottky) same (junction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:55
S647	3295	(FED ("field emitter device" "electron emission") diode light \$emitting light\$emission) with (PN schottky) same (junction) same (light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:55
S648	1995	S647 and @ad< "20040915"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/02 11:56
S649	1	("20020096994").PN.	US-PGPUB; USPAT	OR	OFF	2011/03/02 13:31
S650	21	("2002/0096994").URPN.	USPAT	OR	OFF	2011/03/02 13:35

## **EAST Search History (Interference)**

Ref#	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	542	(diamond with (emit\$4 emiss \$3 cathode)) and crystal and dop\$4 and "n" and "p"	- 5	OR	ON	2011/03/02 15:14
L9	411	L8 and @ad< "20040915"	USPAT; UPAD	OR	ON	2011/03/02 15:14
L10	14	("5541423").URPN.	USPAT	OR	OFF	2011/03/02 15:34

## 3/2/2011 6:50:33 PM

 $\textbf{C:} \ \textbf{Documents} \ \textbf{and Settings} \\ \ \textbf{ebreval} \\ \ \textbf{My Documents} \\ \ \textbf{EAST} \\ \ \textbf{Workspaces} \\ \ \textbf{12178062.wsp} \\ \ \textbf{and Settings} \\ \ \textbf{My Documents} \\ \ \textbf{AST} \\ \ \textbf{Workspaces} \\ \ \textbf{12178062.wsp} \\ \ \textbf{My Documents} \\ \ \textbf{My Do$